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was obtained on March 15th. Stormy or cloudy weather has prevented further observation.*

The latest comet, *c* 1906, was discovered at Melbourne by Ross, March 17th. Storm was brewing at the time on Mt. Hamilton and has prevailed continuously since, so that observation has been impossible. An orbit was computed at the Naval Observatory by Miss LAMSON from Eastern observations. The comet passed nearest the Sun on February 21st; it now sets a little north of the equator about two hours after sunset. It is improving somewhat in position for observation, but is diminishing in brightness; by April 1st it will be but half as bright as at discovery. This is one of the rare occasions when the orbit of a comet has been received before our first observation of it.

Since March 15th the Gerrish telegraphic cipher code, of Harvard College Observatory, has been employed in the transmission of astronomical messages, supplanting the more cumbersome Chandler-Ritchie Science Observer code, which has been in use for over twenty years. The new code substitutes for the ten digits the alphabetically formed syllables:—

ba	*de*	*fi*	*go*	*ku,*	*am*	*en*	*ip*	*ot*	*ux*
1	2	3	4	5	6	7	8	9	0

which can be memorized in the reading. If any of the data are omitted, the missing figures are represented by the syllable *vy*. The formation or translation of the numerical part of a telegram is accomplished by the simple exchange of numbers and syllables in order in filling out a printed blank form. There is no change of order or of units. The method of formation of the syllables renders the code practically error-proof; errors are less apt to occur, and when committed are usually apparent at a glance and corrected by inspection. A few explanatory plain words accompany each message.

JAMES D. MADDRILL.

ORBIT OF THE SEVENTH SATELLITE OF JUPITER.

Professor LEUSCHNER has recently derived an "Analytical Method of Determining the Orbits of New Satellites." An application of this method has been made by Mr. CHAMPREUX and myself to the case of the seventh satellite of *Jupiter*. The orbits given below are based upon PERRINE's positions of

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*Measured since on March 27th, after sending the note to printer.—J. D. M.

January 3d, February 8th, and March 6th (1905). The first set of elements was derived irrespective of any perturbations. The second set represents the first approximation to elements osculating February 8th by taking immediate account of the attraction of the Sun. The third set is the result of a close representation of the observations on the same basis.

The first set of elements is comparable with that of Ross *L. O. Bulletin* No. 82, giving practically the same representation for an observation of August 9th. The second and third sets, however, give the residuals:—

		II.	III.
(o—c)	Δ p	= + 2°.7	+1°.6
	Δ s	= + 5′.2	+8′.8

The computed positions being derived directly from the elements osculating for February 8th, without applying the solar perturbations from February 8th to August 9th. The solar perturbations are being computed for all observations secured since discovery by an adaptation of ENCKE's method of special perturbations in rectangular co-ordinates. With these perturbations it is expected that recent observations will be closely represented. Outstanding differences will serve for the correction of the third set of elements.

It is interesting to note that LEUSCHNER's method gives all the solutions possible on the basis of the three observations upon which the computation is based at one and the same time.

Elements of the seventh satellite of *Jupiter* (direct motion) referred to the Earth's equator, 1905.0:—

Epoch,	Feb. 8.6009 Gr. M. T.	Feb. 8.6009 Gr. M. T.	Feb. 8.6009 Gr. M. T.
M	83° 17′ 57″	281° 13′ 48″	283° 04′ 04″
Ω	279 45 08	289 47 45	288 19 59
ω	6 38.42	189 15 19	187 29 41
i	26 27 14	25 39 42	25 39 23
e	0.12576	0.13195	0.12152
log μ°	0.15591	0.14885	0.14310
Period	251.142 days	255.538 days	258.942 days
*a	49′ 48″	50′ 20″	50′ 47″
(o - c) Δ p	— 5°.6	+ 2°.7	+ 1°.6
Δ s	+ 33′.6	+ 5′.2	+ 8′.8

*a for log (*Jupiter's* distance) = 0.72124

RUSSELL TRACY CRAWFORD.

BERKELEY ASTRONOMICAL DEPARTMENT, March 26, 1906.